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Children's Trust:

Does Appearance Make a Difference?

Research Thesis

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by

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Abstract

Children learn new behaviors by watching others and then imitating what they see. Previous work has shown that children prefer to learn new things from a teacher who shares their native accent. This preference might stem from the fact that accent is an important cue to social group membership and children prefer learning from in-group members. This study looked at appearance as a cue to group membership to see if it had the same importance as a linguistic cue. Five-year old children (mean age = 65.03 months, N = 33) watched videos of two different women playing with a novel toy to retrieve a prize from inside. One woman was dressed in western style clothing (in-group) whereas the other woman was dressed in a non-western style (out-group). Each woman played with the toy differently to get to the prize. After watching each woman play with the toy, the child was asked to play with the toy to get the prize out. The child was also asked to demonstrate to a parent how to play with the toy. This process was repeated for a total of four novel toys. Data analysis shows that (1) children reproduced the example play actions over 90% of the time even though they were not explicitly asked to and these actions were not required to retrieve the prize, and (2) according to t-test analysis, children showed no statistically significant preference for imitating the actions of either one of the teachers. These results suggest that accent differences provide information about group membership to the children that appearance differences do not.

Introduction

One of the first things noticed about people is their appearance. Based on these appearances, oftentimes judgments are made to help us classify what it is that we see. Sometimes, these classifications are helpful and work as a cue to important cultural information. For example, upon seeing a woman wearing a hijab, it can be concluded that she is a follower of the Muslim faith. Concluding that the woman is Muslim may be helpful in being respectful when communicating with her or will provide you with a better understanding of who she is. The way we present ourselves to others, as reflected in the clothes we wear, correlates with which social groups we associate. The woman wearing the hijab indicates that she is of the Muslim faith just as a high school student in a track uniform can assumedly be an athlete. All people carry these underlying stereotypes about social categories that are oftentimes informative about the person underneath the physical attributes (Stangor, Lynch, Duan, & Glass, 1992).

These immediate judgments help guide people to determine whether or not a certain individual belongs to their specific social group or not. To have in-group status marks you as part of a community or culture of like-minded individuals. Not only is having in-group status desirable, those that are considered part of the out-group may be regarded as less trustworthy and uninformed. The mind is largely influenced by the culture it encounters on a daily basis and the behaviors associated with that culture (Gergely & Csibra, 2005). When taking this information to the developmental level, there are many ways that our judgments and cultural affiliation can affect how children learn about the world around them. Cultural identity plays a large role in what we do and, possibly more importantly, how we do it (Flynn & Whiten, 2008). Previous research has shown that children prefer to learn from someone who is more like them than

someone who is different (Kinzler, Corriveau, & Harris, 2011). This may be driven by the idea that children are better able to trust those that are similar to them than someone who is different. The children may choose to learn from people who are like them because they trust that the person will relay the proper information.

In order for researchers to study what drives children's trust, they often present children with a choice and see which they prefer (Aldana, 2009; Kinzler, Corriveau, & Harris, 2011; Kinzler, Shutts, DeJesus, & Spelke, 2009; Kinzler, & Spelke, 2011; Shutts, Banaji, & Spelke, 2010; Shutts, Kinzler, McKee, & Spelke, 2009; Wagner, Dunfield, & Rorhbeck, under review). By putting a child into a forced choice situation, the choice can be evaluated to correlate to trustworthiness. In one such study, the experimenters showed 3-year-old children a video of a familiar teacher and one of an unfamiliar teacher and found that the children preferentially endorsed the familiar teacher (Corriveau & Harris, 2009). This result can be interpreted to mean that they are selecting to trust the teacher with which they are familiar.

Many studies have been conducted to determine the influence of native and foreign factors in the way a child learns and behaves. Previous to this study, Wagner, et al., (under review) conducted an accent-based study to determine if language and the presence of a foreign accent versus a native accent had an effect on the play of the child, and also on adults. Wagner, Dunfield, & Rohrbeck (under review) found that even when the tasks being altered between the two examples were non-functional the child participants still performed the task. Also, in the child-based study it was found that the children were more apt to follow the example of the native accented speaker. This shows that speech is an influential social cue for children when learning new tasks. In Kinzler, Corriveau, and Harris' study (2011), children were shown two women, one with a native accent and one with a foreign accent. Once they were introduced to the

women, the children were shown a still frame of a novel toy and asked which woman they would like to ask to show them the object's function. The results determined that children would look to native-accented speakers over foreign-accented speakers to receive information. These children would also endorse the information from the native-accented speaker more by claiming that the native-accented speaker's description was the proper function of the object. This result suggests that these children selectively learn from the native-accented speaker.

Studies have also been conducted to examine children's tendencies for choosing friends based on language and communicability. Researchers found that children have a tendency to prefer members of one's native language group (Kinzler, Shutts, DeJesus, & Spelke, 2009). In this study, children were shown faces that were paired with a voice (speaking English or French, and then English with an American accent and English with a French accent) and were asked which person they wanted to be friends with. It was found that the preference for native-accented speech was just as strong as native language in itself. Another part of this same study looked at race in the absence of accent cues, as has been done in this study, and also race with accent. When race was presented alone, children chose the same-race faces. This shows us that the children are aware of the racial differences, and are making some judgment about that knowledge. It may be that children think it is easier to relate to someone who is the same race, and therefore would rather be friends with that person to have more in common. When accent was added, the children chose to be friends with a black face paired with a native accent over a white face paired with a foreign accent. From these results we can deduce that children are more affected by how an individual sounds over how they look when making a socially relevant decision.

In another study by Stangor, Lynch, Duan, and Glass (1992), it was thought that people would pay more attention to features that were more informative and ignore other obvious features that were not as useful. They found that clothing style was more informative than clothing color because it was seen as holding more information about the specific person. Along those same lines, Shutts, Banaji, and Spelke (2010) determined that sex and age were strong guides to children's choices but race was not. It seems as though the perception of race as a social group or in-group marker is not prominent until the end of the preschool years (Kinzler & Spelke, 2010). Morland (1972) found that little racial prejudice was shown, but it increased with the test subjects' age (from 3 to 5 years old). He believed that this might suggest the question of whether a racially segregated environment in itself was what brought out prejudice by the time the child was of school age.

In order to test this idea of in-group and out-group status, there needs to be a domain that is highly social in its nature where these status differences would really make a difference in outcomes. One way to test this is the use of overimitation tasks. In such a method, unnecessary actions can be used to differentiate models and therefore force a decision to be made. Lyons, Young, and Keil's (2007) overimitation study found that even when it is obvious that the actions performed are not necessary to reach the goal, it is typical for the child to continue to reproduce them. For their study, Lyons, Young, and Keil trained child participants to notice what actions were necessary and which were unnecessary when playing with a puzzle object to get a toy placed inside. After the child had this training, there was a test phase where they would see if the child would still recreate the actions even after they concluded they were unnecessary. This is a prime example of observational learning. One major way children learn is by watching the behaviors of others and reproducing them (Flynn & Whiten, 2008). In this study, we had

different sets of unnecessary actions performed on a novel toy (separate actions for the in-group woman and the out-group woman) and used the imitations the children did to determine which woman the child was getting information from. If these appearance cues function in the same way as race, there would be slight bias toward the familiar appearing woman but not as much bias as we saw with language differences.

Based on these past studies, we now want to know if children have a predisposition to align themselves with one person or another based on just appearance. This study looked into play patterns of 5-year olds and determined if the child is more likely to follow the instructions of a woman dressed in western clothing, like jeans and a t-shirt, over a woman who is dressed in non-western clothing, like an abaya or a kimono, when they present the child with conflicting information as to how to play with a certain toy. The goal was to see if the children would habitually, and maybe even consciously, choose to mimic the acts of a woman that appeared more familiar to him or her, with language not being a factor, or if the appearance had no effect in the child's decision. In gathering this data, information was gained about the learning techniques that are employed by children as they are constantly gaining information from those around them. If children have a preference for the woman who looks similar to them, then it can be assumed that they prefer to learn a task from someone who they can relate to as a part of their in-group over someone who is part of the out-group.

Method

Participants

The participants of this study were 5-year old children (M = 65.03, N = 33) from the Columbus area. They were brought into the Developmental Language and Cognition Lab in the Psychology Building on The Ohio State University's campus. The participants were recruited

from the lab's database of previous participants, either at this lab or another lab on campus. None of these subjects had participated in any other branch of this particular study. The parents were called and reminded of their previous experience with the lab and asked if they would be interested in coming in again to participate. Each parent or guardian signed a consent form before the study began. The parents were also asked to fill out a demographic form and a questionnaire that gave us information about the people and languages their child has been exposed to. One child had family who spoke Spanish at home while other participants received language exposure only from television shows such as *Dora the Explorer*. Every child was a native English speaker. There were 18 males and 15 females. It was found that only 8 of the participants had ever traveled outside of the United States, 4 of which were to Canada. In regards to schooling, 8 participants received only in-home care or home schooling, all others either went to daycare, preschool, or kindergarten.

Stimuli

A set of 4 novel toys was created for this experiment, all of which could be opened in some fashion to retrieve a small prize from within. In addition to just opening the toy to get to the prize, other non-functional actions were assigned to the toys so as to make the retrieval methods different for each teacher within a trial. See Figure 2 for pictures of the toys used and the retrieval methods assigned to each toy. Once the toys were created, videos were recorded of the two female "teachers" demonstrating how to manipulate the toy to retrieve the prize. Each woman was recorded separately and the video was shot from over the shoulder so that either voice could be paired with either teacher across conditions. The first woman was Caucasian and was dressed in a traditional western style in a plain blue t-shirt and jeans. The second woman was Japanese and was dressed in a kimono-style wrap with her hair covered by a head wrapping.

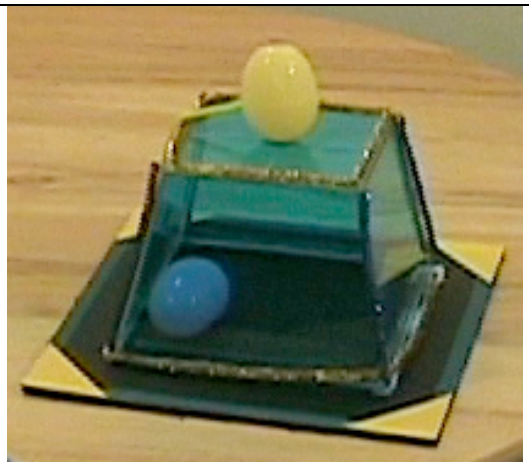
She also had henna tattoos covering the backs of both hands. In addition, she was shown not wearing shoes in the introduction video. This look was picked as the cultural out-group representation because it brought together many different elements that are not common in Columbus. Picking something like a hijab to show out-group status would not have been as practical because Columbus has a high Somalian population. The videos were paired with audio recordings of two native-accented English-speaking women describing the actions being performed.

There were different conditions to this experiment so as to counterbalance all variables of the study. The voice-overs that were used as the women played with the toys were switched and used with either woman, but were constant during each separate trial. Also, the choice of non-functional play was counterbalanced between the two women so it was not always the same teacher (in-group or out-group) performing the same act. In addition, the order of which woman was shown first, in-group or out-group, was varied among the trial conditions.

Western (native) dressed woman

Non-western (foreign) dressed woman

Figure 1: Women used to model the toy actions



Blue Cube

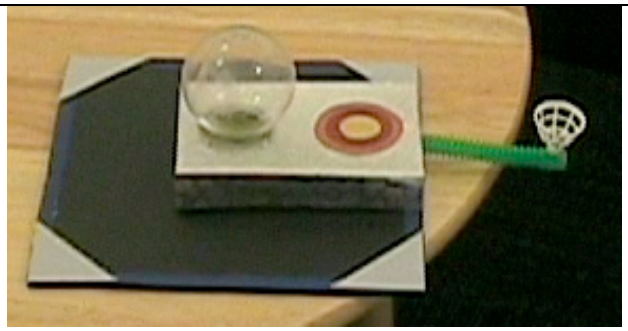
1. Tilt box
2. Method 1: tap purple egg on the blue box
3. Method 2: tap purple egg on yellow egg
4. Open purple egg

Bug Catch

1. Remove funnel
2. Method 1: attach funnel to Velcro on other side
3. Method 2: place funnel into hole on other side
4. Twist door open

Silver Tube

1. Method 1: Beat on the top, then shake
2. Method 2: Beat on sides, then roll
3. Remove lid



Spinner

1. Method 1: spin using green handle, scratch target
2. Method 2: spin using clear bulb, knock on clear bulb
3. Remove box

Figure 2: Four novel toys and their retrieval methods

Procedure

To start the experiment, the child watched two videos to be introduced to the women who were playing with the new toys in the later videos. The women who were playing with the toys in the videos were dressed in two separate fashions. The one woman was dressed in western style clothing, specifically jeans and a plain shirt. The other woman, who is Japanese, was dressed in a

non-western style with a kimono type robe, a wrap on her head, and henna tattoos on her hands. Following those videos, the child was shown videos of the two women playing with a novel toy, each adding their own non-functional acts before getting the prize out. That is, they did something with the toy that was not necessary to reach the prize that must be learned, like beat on it like a drum or spin it in circles. Each woman followed the same script, except when presenting her individual non-functional acts, so as to avoid an unnecessary bias. After watching each woman play with the toy, the child was given the toy and asked to play with it to get the prize out. This was the imitation phase. Once the prize was retrieved from the toy, the experimenter put the toy back to it's original state, with the prize inside, and asked the child to show a third party (either a parent or another experimenter who was not watching as the child played the first time) how to play with the toy to get the prize out. This was the transmission phase and occurred immediately after the imitation phase. Approximately 90% of the participants completed the transmission phase with a parent or other family member with whom they were familiar. This step allowed the experimenters to see not only the child's choice of which woman to model their play after but also how the child transmitted the information that was learned. This same process was used on three more toys: watch two videos, play with the toy, and show a third party how to play. The entire sequence took roughly 20 minutes to complete.

Results

The participants retrieved the prize from the toy in every trial. This outcome was to be expected since both teachers retrieved the prize in each instructional video. The subjects were not instructed to follow either of the teachers; they were just asked to play with the toys. We

coded the participants' individual non-functional actions as following the woman in western style clothing, the woman in non-western style clothing, or neither.

It is important to note that each participant did not include non-functional acts for each trial. Across both the imitation and transmission phases, there were a total of 9.1% of trials in which a participant omitted non-functional acts for a specific toy. There was only one instance in which a participant completely omitted non-functional acts for all toys, and that occurred only in the transmission phase of his trials.

The participants, on average, produced 5.45 non-functional actions (SD= 1.7) out of a total of 6 possible actions per teacher. On 37.5% of trials, participants exclusively imitated the western style dressed woman and on 32.58% of trials participants exclusively imitated the non-western dressed woman. In all other trials, there were either no non-functional actions or a mixture of actions from both teachers. Looking at individual participants, only one person consistently imitated the western style dressed woman for all actions for all trials. All the other participants included actions from both models at some point in the experiment. Even where there were 2 non-functional actions present and there was an opportunity for participants to mix their actions, about half would consistently imitate the same teacher for both actions (15 out of 33 children) but only about a third would stay consistent in who they modeled their actions from across the imitation and transmission phases (10 out of 33). From these calculations, we find that the participants did not seem to show a strong preference for either teaching model.

Using children's imitations as the dependent variable, we performed a 2X2 ANOVA comparing the participants' actions (western vs. non-western) and trial phase (imitation vs. transmission). The results showed no significance for speaker identity ($F(1, 32) = .207$, n.s.) but did show significance for trial phase ($F(1, 32) = 6.780$, $p = .014$). Children performed more

actions overall during the imitation phase than the transmission phase. There were no significant interactions between the two factors (F (1, 32, 1.746, n.s.). These results are shown in Figure 3.

We further examined whether there were differences among the individual containers used (See Table 1). Separate ANOVAs were conducted for each container. For the blue cube and spinner, results were qualitatively the same as the general ANOVA (no effects were found for appearance or phase, and there was no significant interaction). However, for the silver tube, there was a significant increase in the number of non-functional actions during the imitation phase (F (1, 32) = 5.146, p = 0.030). Moreover, the bug catcher also showed an increase in the number of actions during the imitation phase (F (1, 32) = 5.714, p = .023). These two toys are what drove the overall phase effect to be significant.

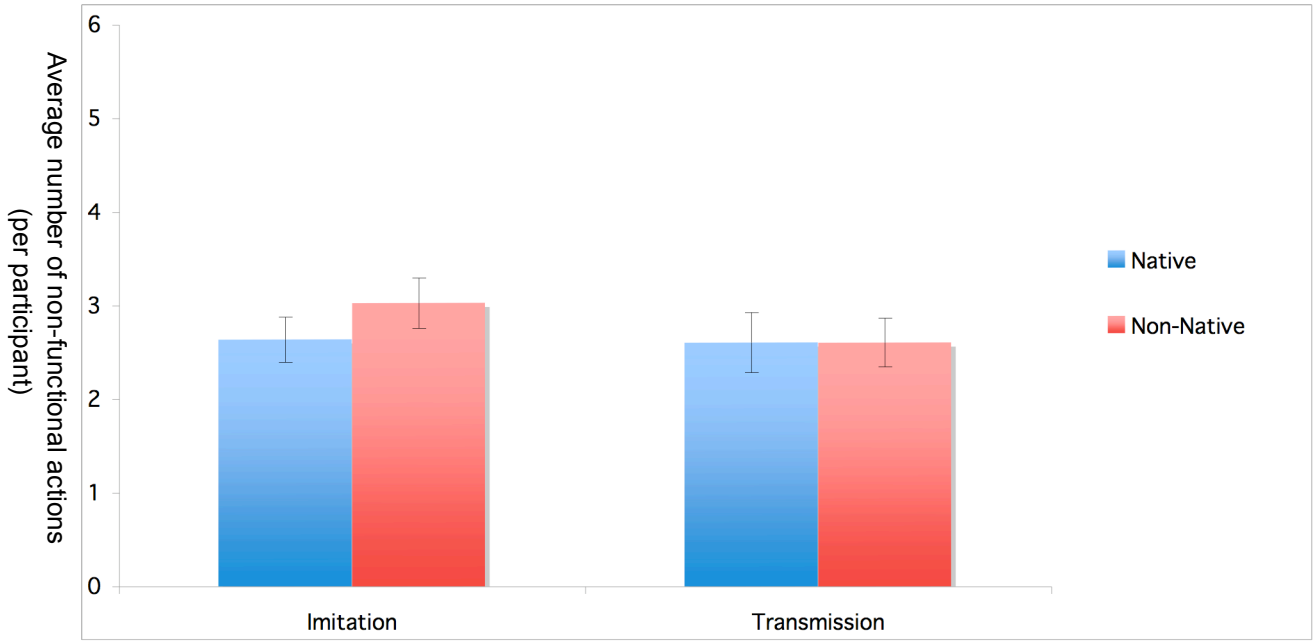


Figure 3: Average number of native or non-native actions across subjects per phase

	Imitation		Transmission	
	Native	Non-Native	Native	Non-Native
Blue Cube (1 action)	0.61	0.33	0.58	0.36
Bug Catch (1 action)	0.55	0.58	0.48	0.48
Silver Tube (2 actions)	0.73	1.03	0.73	0.79
Spinner (2 actions)	0.76	1.09	0.82	0.97

Table 1: Proportion of non-functional actions following each teacher for each toy

When comparing the imitation phase to the transmission phase, participants had the tendency to be consistent in following the same model across phases. Nearly 82% of participants produced the same actions in both phases. There was no consistency in the methods for certain items across participants. None of the containers led to a consistent pattern of imitation: participants imitated the full range of actions from both models for all the containers.

Another aspect of the participants' actions that warranted analysis was the amount of original actions performed. That is, we looked at what participants chose to make up their own ways to play with a toy, rather than follow either one of the methods that the teachers modeled. It was discovered that 27% of subjects would create their own actions in the imitation phase and 24% in the transmission phase. Most of these original actions occurred alongside actions modeled by the foreign appearing woman. This may be because the child had a harder time remembering what other action the model performed and they were compelled to make up their own to fill in the mental blank.

General Discussion

The focus of this study was to determine the effect appearance had on a child's preference for trust. By removing all other cues of social categorization, would a child align himself more with what is familiar by replicating the actions of the familiar? The results suggest that this is not true. For this task, the children did not show any type of preference for one

woman or the other. The actions of the native appearing woman were not copied any more than the actions of the foreign appearing woman.

What we did find in this study is that there was significance in regards to trial phase. There were more nonfunctional actions included in the imitation phase than in the transmission phase. One hypothesis for why this occurred is that after the child played with the toy the first time, it became more obvious that the extra actions were unnecessary and they just stopped doing them. It could also be that the children who did not recreate the actions in the transmission phase had lost interest in the toy and the task and wanted to move on to the next one. Since the participants were only 5 years old, it is highly possible that their attention just couldn't hold throughout the whole task.

Seeing that these children did not have a preference for in-group cultural appearances tells us quite a bit about the importance of this visual cue to a child's learning process. In comparison to previous studies, it can be concluded that familiar appearance is not as important of a social cue as accent (Kinzler, Corriveau, & Harris, 2011) or certainty (Wagner, Dunfield, & Rohrbeck, under review). Both of these studies determined that language has an affect on children's decisions and that they preferred the native to the foreign. To see this outcome occur in multiple studies focused on different cultural cues, it seemed highly plausible that appearance would have had a similar effect on the tasks. If the reason for the language preference found in other studies is in-group versus out-group status, we should have found that appearance works just as well. On the contrary, the appearance of the woman had no significant effect on the child who was learning the new task. This finding could be due to social exposure. Columbus, Ohio is a highly metropolitan area with many different types of people. It could be possible that the

children used for this study are accustomed to learning from or, at the very least, seeing people of various group appearances.

These results differ from those found by Kinzler and Spelke (2011). In their study, 5-year-old children preferred to take toys from own-race individuals while the 10-month-old infants and 2.5-year-old children showed no preference. They concluded that social preferences based on race would emerge between 2.5 and 5 years of age. Even though race wasn't as strong of a cue in the presence of language variation, it still showed a bias. Race also became more significant when it stood alone. However, in this current study where children were expected to learn a task from the in-group or out-group teacher and then transmit that information to a third party, there was no preference. The difference in findings between this study and Kinzler and Spelke's (2011) could be due to the different methods used in each study. There may be a different relation of trust when taking items from a person over using them as a model for a play task.

This research finding gives us a look into what could be our future. This could show that the next generation isn't as xenophobic as others have been in the past. These children may be learning to see past these visual differences and are only using more innate differences to differentiate people they come in contact with. Our world is evolving and ethnicities are mixing to the point where these visual differences don't hold the same information that they may have previously. From this point, we could expand this study to some smaller city where there isn't such a mix of people present to see if the children respond the same. It would be interesting to see if this idea of in-groups and out-groups is dying out throughout all areas.

A possible idea for a future research study would be to manipulate the ages of the people in the stimuli and/or the transmission partners. For this study the two women who modeled the

actions of the toys were adults. It may be of interest to see what changes may occur if the stimuli videos were created using children the same age as the participants. In the transmission sense of the study, age can also be manipulated to have the child participants show someone their own age how to play with the toys. The relationship between the ages could create a different effect than what was found in this study.

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